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09/725,793	11/29/2000	Urpo Nokkonen	460-009938-US(PAR)	9579

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EXAMINER	
MILORD, MARCEAU	
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2682	8

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/725,793	Applicant(s) NOKKONEN ET AL.	
	Examiner Marceau Milord	Art Unit 2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *8-18* is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Talvitie et al (US Patent No 6133884) in view of Trikha et al (US Patent No 6072993) and Sointula (US Patent No 6100847).

Regarding claim 1, Talvitie et al discloses a method for coupling external antennas (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5) to a communication unit (10 of fig. 1A; 20 of fig. 2; 50, 58 of fig. 5), comprising the steps of: transmitting signals of at least a first frequency range between the unit (50 of fig. 5) and first external antenna means (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5; col. 2, line 65- col. 3, line 4; col. 4, lines 36-67), which antenna means are arranged for at least sending these first signals, and which frequency range is reserved for a first wireless data transfer connection (col. 5, lines 41- 65;col. 6, lines 4-33), transmitting signals of at least a second frequency range between the unit (58 of fig. 5) and second external

antenna means (30 of fig. 5; col. 3, lines 6- 42) , which antenna means (30, 40 of fig. 5) are arranged for at least sending these second signals, and which frequency range is reserved for a second wireless data transfer connection (col. 5, lines 41- 65;col. 6, lines 4-33), combining the signals of at least the first frequency range and the signals (col. 3, lines 33- 63; col. 6, line 39- col. 7, line 44).

However, Talvitie et al does not specifically disclose the steps of combining the signals of at least the first frequency range and the signals of at least the second frequency range for feeding them from the unit via common coupling means to the external antennas; and filtering the first signals from the signals received via said common coupling means for feeding them to the first external antenna means, and filtering the second signals from the signals received via said common coupling means for feeding them to the second external antenna means.

On the other hand, Trikha et al, from the same field of endeavor, discloses a portable radio transceiver that transmits/receives RF signals in a first frequency band or a second frequency band. The RF signals are selectively transmitted/received via a first antenna or a second antenna. In addition, the radio transceiver has a tuning circuit that selectively presents the correct impedance to RF signals in each of the two frequency bands for signal reception/transmission carried out via the first or second antenna (col. 2, lines 10-30; col. 3, line 34- col. 4, line 11).

Sointula also discloses an antenna module for a radio, comprising a radioactive element, a filter means coupled to the radioactive element and disposed proximal to the radioactive element, and an amplifying means coupled to the filter, wherein the module further comprises coupling means for coupling the amplifying means to a radio (col. 1, line 55- col. 2, line 30; col.

3, lines 39-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Sointula to the modified system of Trikha and Talvitie in order to provide a portable radio transceiver for operating in two frequency bands such that the radio transceiver receives/transmits RF signals via either its own antenna or via another antenna/port connected to the radio transceiver.

Regarding claim 2, Talvitie et al discloses a method for coupling external antennas (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5) to a communication unit (10 of fig. 1A; 20 of fig. 2; 50, 58 of fig. 5), comprising the steps of transmitting signals of at least a first frequency range between the unit (20 of fig. 2; 50, 58 of fig. 5) and first external antenna means (31 of fig. 3; 30, 40 of fig. 5), which antenna means (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5) are arranged for at least receiving these first signals (col. 2, line 65- col. 3, line 4; col. 4, lines 36-67), and which frequency range is reserved for a first wireless data transfer connection (col. 5, lines 41- 65; col. 6, lines 4-33), transmitting signals of at least a second frequency range between the unit (58 of fig. 5) and second external antenna means (30 of fig. 5); which antenna means are arranged for at least receiving these second signals, and which frequency range is reserved for a second wireless data transfer connection (col. 5, lines 41- 65; col. 6, lines 4-33), combining the signals of at least the first frequency range and the signals of at least the second frequency range (col. 3, lines 33- 63; col. 6, line 39- col. 7, line 44).

However, Talvitie et al does not specifically disclose the steps of combining the signals of at least the first frequency range and the signals of at least the second frequency range received with the external antennas for feeding them via common coupling means to the unit, and filtering the first signals from the received signals for feeding them to the first radio part of

the unit, which radio part is arranged for processing these signals, and filtering the second signals from the received signals for feeding them to the second radio part of the unit, which radio part is arranged for processing these signals.

On the other hand, Trikha et al, from the same field of endeavor, discloses a portable radio transceiver that transmits/receives RF signals in a first frequency band or a second frequency band. The RF signals are selectively transmitted/received via a first antenna or a second antenna. In addition, the radio transceiver has a tuning circuit that selectively presents the correct impedance to RF signals in each of the two frequency bands for signal reception/transmission carried out via the first or second antenna (col. 2, lines 10-30; col. 3, line 34- col. 4, line 11).

Sointula also discloses an antenna module for a radio, comprising a radioactive element, a filter means coupled to the radioactive element and disposed proximal to the radioactive element, and an amplifying means coupled to the filter, wherein the module further comprises coupling means for coupling the amplifying means to a radio (col. 1, line 55- col. 2, line 30; col. 3, lines 39-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Sointula to the modified system of Trikha and Talvitie in order to provide a portable radio transceiver for operating in two frequency bands such that the radio transceiver receives/transmits RF signals via either its own antenna or via another antenna/port connected to the radio transceiver.

Regarding claim 3, Talvitie et al discloses an arrangement for coupling external antennas (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5) to a communication unit (10 of fig. 1A; 20 of fig. 2; 50, 58 of fig. 5) for transmitting signals between the communication unit (20 of fig.

2; 50, 58 of fig. 5) and the external antennas (26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5), comprising means by which signals of at least a first frequency range are transmitted between the unit (50 of fig. 5) and first external antenna means (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5; col. 2, line 65- col. 3, line 4; col. 4, lines 36-67), which frequency range is reserved for a first wireless data transfer connection (col. 5, lines 41- 65; col. 6, lines 4-33), means by which signals of at least a second frequency range are transmitted between the unit (58 of fig. 5) and second external antenna means (30 of fig. 5), which frequency range is reserved for a second wireless data transfer connection (col. 5, lines 41- 65; col. 6, lines 4-33), first filter means (25 of fig. 2), which are arranged for combining at least the first signals (col. 4, line 55- col. 5, line 6) and at least the second signals and for feeding them via common coupling means to the external antennas , for filtering the first signals from the received signals for feeding them to the first radio part of the unit (85 of fig. 7), which radio part (85 of fig. 7) is arranged for processing these first signals (col. 7, lines 36-44).

However, Talvitie et al does not specifically disclose the features of filtering the second signals from the received signals for feeding them to the second radio part of the unit, which radio part is arranged for processing these second signals, and second filter means, which are arranged for combining at least the first signals and at least the second signals received with the external antenna means and for feeding them via said common coupling means to the unit, for filtering the first signals from the signals received via said coupling means for feeding them to the first external antenna means, and for filtering the second signals from the signals received via said coupling means for feeding them to the second external antenna means.

On the other hand, Trikha et al, from the same field of endeavor, discloses a portable radio transceiver that transmits/receives RF signals in a first frequency band or a second frequency band. The RF signals are selectively transmitted/received via a first antenna or a second antenna. In addition, the radio transceiver has a tuning circuit that selectively presents the correct impedance to RF signals in each of the two frequency bands for signal reception/transmission carried out via the first or second antenna (col. 2, lines 10-30; col. 3, line 34- col. 4, line 11).

Sointula also discloses an antenna module for a radio, comprising a radioactive element, a filter means coupled to the radioactive element and disposed proximal to the radioactive element, and an amplifying means coupled to the filter, wherein the module further comprises coupling means for coupling the amplifying means to a radio (col. 1, line 55- col. 2, line 30; col. 3, lines 39-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Sointula to the modified system of Trikha and Talvitie in order to provide a portable radio transceiver for operating in two frequency bands such that the radio transceiver receives/transmits RF signals via either its own antenna or via another antenna/port connected to the radio transceiver.

Regarding claim 4, Talvitie et al as modified discloses an arrangement for coupling external antennas (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5) to a communication unit (10 of fig. 1A; 20 of fig. 2; 50, 58 of fig. 5), wherein the first filter means (25 of fig. 2) and at least part of the common coupling means are located in the unit (col.. 3, lines 16- 42; col. 4, line 57- col. 5, line 20).

Regarding claim 5, Talvitie et al discloses an antenna arrangement for coupling external antennas (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5) to a communication unit (10 of fig. 1A; 20 of fig. 2; 50, 58 of fig. 5), which is arranged for establishing a first and a second wireless data transfer connection (col. 5, lines 41- 65;col. 6, lines 4-33), the arrangement comprising at least means for coupling first external antenna means (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5; col. 2, line 65- col. 3, line 4; col. 4, lines 36-67) to the arrangement, which antenna means (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3) are arranged for signals of a first frequency range, which is reserved for a first wireless data transfer connection (col. 5, lines 41-65; col. 6, lines 4-33), and first connector (29 A of fig. 2) means for coupling the arrangement to the unit (20 of fig. 2), which connector means are arranged for transmitting at least said first signals between the first external antenna means and the unit (20 of fig. 2; col. 3, lines 33- 63; col. 4, lines 46- 66) wherein the first connector means are also arranged for transmitting signals of a second frequency range between second external antenna means and the unit (col. 3, lines 16-31), which frequency range is reserved for a second wireless data transfer connection, and which second external antenna means are arranged for said second signals (col. 5, lines 3- 44; col. 6, lines 27- 58).

However, Talvitie et al does not specifically disclose the features of a filter means which are arranged for combining at least the first and at least the second signals for feeding to the first connector means, and/or which filter means are arranged for filtering at least the first and at least the second signals from each other for feeding to said external antenna means.

On the other hand, Trikha et al, from the same field of endeavor, discloses a portable radio transceiver that transmits/receives RF signals in a first frequency band or a second

frequency band. The RF signals are selectively transmitted/received via a first antenna or a second antenna. In addition, the radio transceiver has a tuning circuit that selectively presents the correct impedance to RF signals in each of the two frequency bands for signal reception/transmission carried out via the first or second antenna (col. 2, lines 10-30; col. 3, line 34- col. 4, line 11).

Sointula also discloses an antenna module for a radio, comprising a radioactive element, a filter means coupled to the radioactive element and disposed proximal to the radioactive element, and an amplifying means coupled to the filter, wherein the module further comprises coupling means for coupling the amplifying means to a radio (col. 1, line 55- col. 2, line 30; col. 3, lines 39-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Sointula to the modified system of Trikha and Talvitie in order to provide a portable radio transceiver for operating in two frequency bands such that the radio transceiver receives/transmits RF signals via either its own antenna or via another antenna/port connected to the radio transceiver.

Regarding claim 6, Talvitie et al as modified discloses an antenna arrangement for coupling external antennas (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5) to a communication unit (10 of fig. 1A; 20 of fig. 2; 50, 58 of fig. 5), wherein it also comprises cable means (28 of fig. 2) for coupling the first external antenna means (26 of fig. 2) to the antenna arrangement (col. 4, line 57- col. 5, line 20), and wherein the second external antenna means are integrated into said cable means (col. 6, lines 39-67).

Regarding claim 7, Talvitie et al as modified discloses an antenna arrangement for coupling external antennas (11 of fig. 1A; 26 of fig. 2; 31 of fig. 3; 30, 40 of fig. 5) to a

communication unit (10 of fig. 1A; 20 of fig. 2; 50, 58 of fig. 5), wherein it is formed as a holder in which the unit (20 of fig. 2) is arranged to be placed, and into which the filter means (25 of fig. 2) and the second external antenna means (24 of fig. 2) are integrated (col. 4, line 57- col. 5, line 20).

Allowable Subject Matter

2. Claims 8-18 are allowed.

Response to Arguments

3. Applicant's arguments filed on 1-20-2004 have been fully considered but they are not persuasive.

Applicant's representative argues that Talvitie does not teach the steps of combining two signals into two antennas by filtering.

However, Trikha discloses a portable radio transceiver that selectively switches between two antennas for operating in either of the two modes, such as a handheld mode of operation using the transceiver antenna, or a car mode of operation using an external antenna and battery (abstract; figs. 1-2; col. 2, lines 11-25). The bandpass filters 124 and 126 pass signals in either the PCS or cellular bands (col. 4, lines 19-33; col. 3, lines 54-63). The examiner believes that this reference was used to disclose this particular feature as it was applied in the above rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 703-306-3023. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARCEAU MILORD

Marceau Milord
Examiner
Art Unit 2682